

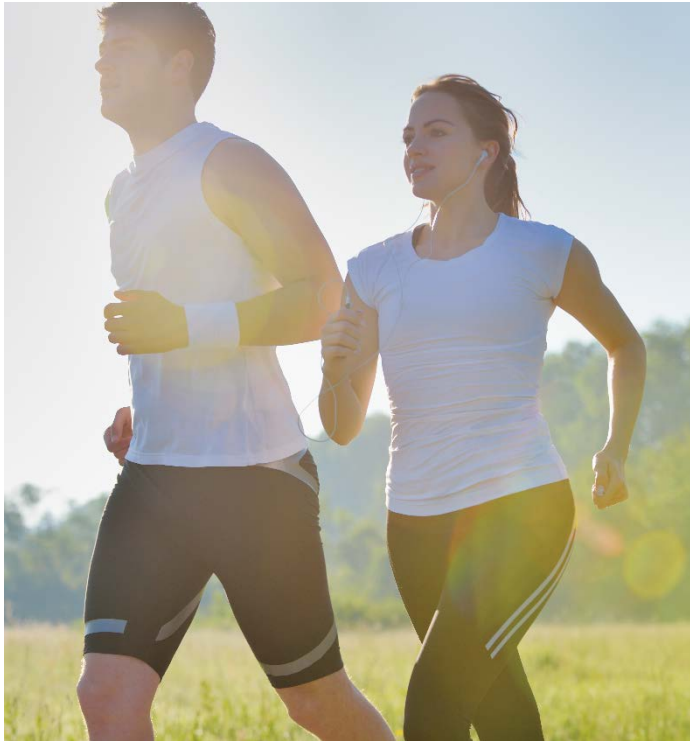
# U.S. Dairy Protein in Meat Alternatives

IFT 2015 - Chicago



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## Many Consumers are Interested in Protein



- Protein is moving from the niches to the mainstream with mass appeal of various claims, such as satiety and everyday energy.<sup>1</sup>
- From 2010 to 2014, new product launches with a protein claim have grown at a 29% annual growth rate.<sup>2</sup>
- 2014 research found participants had a statistically significant increase in lean body mass when whey protein was used in conjunction with resistance exercise.<sup>3</sup>

1. Innova Market Insights, “Top 10 Trends of 2015,” November 2014

2. Innova Database, “Key Trends in the Global F&B Industry,” April 2015

3. JACN, “Effects of Whey Protein on Body Composition: A Meta-Analysis of Randomized Controlled Trials,” 2014

## Protein Quality Matters

- Higher protein diets provide a variety of benefits:
  - Maintain a healthy weight
  - Curb hunger
  - Build lean muscle, with regular resistance exercise
  - Enhance muscle recovery
  - Maintain muscle mass during aging
- Whey protein research continues to show advantages over soy at preserving muscle protein synthesis.<sup>1</sup>
- An updated method for differentiating dairy proteins has been proposed.

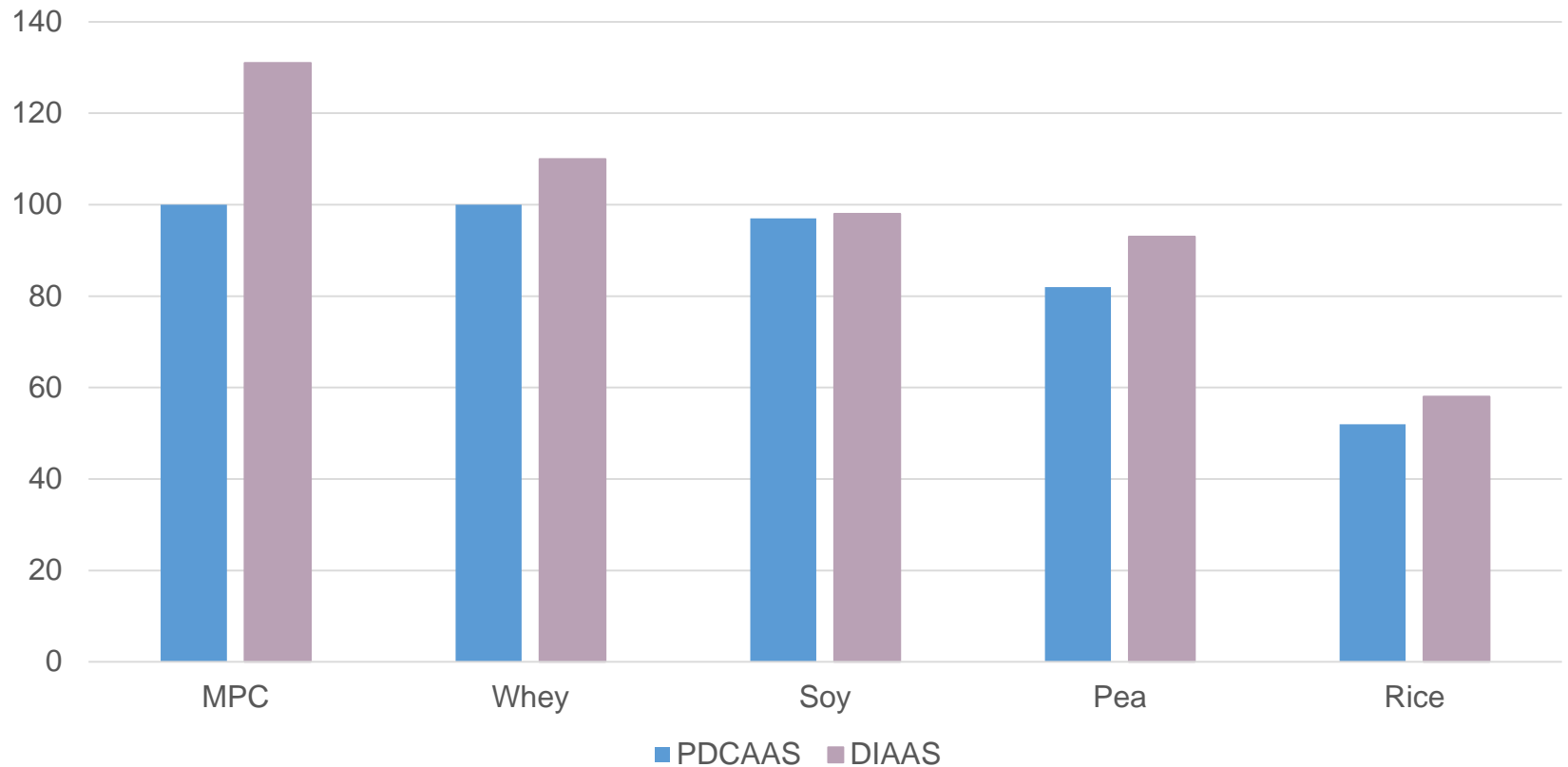


## Measuring Protein Quality

- The current method used is Protein Digestibility Corrected Amino Acid Score (PDCAAS).
- The method being proposed is Digestible Indispensable Amino Acid Score (DIAAS).

Factor	PDCAAS	DIAAS
Digestibility	Calculated over entire intestinal tract which is less accurate and overestimates quality	Calculation based only on values derived at the terminal end of the small intestine
Scores	Truncated at 1.00	True values used, including those >1.0
Processing of Foods	Alters amino acid availability which is not corrected	Modification of amino acids is accounted for in calculation

## Impact of PDCAAS vs DIAAS Test Methodology



## The Meat Alternative Market is Strong

- Meatless Monday began in 2003 and is now active in 36 countries and growing because every nation can bring its unique culture, customs and cuisine to the table in meat free and vegetarian dishes.<sup>1</sup>
- Flexitarians are driving innovation because they are more demanding than strict vegetarians when it comes to the taste, texture and appearance of foods.<sup>2</sup>
- The demand from consumers seeking products with protein to meet their nutritional and dietary needs continues to rise.
  - The global protein market is anticipated to reach \$24.5 billion in 2015.<sup>3</sup>

1. Meatless Monday, "Meatless Monday goes global," Accessed June 2015, <http://meatlessmonday.com/the-global-movement>.  
2. Food Navigator, "Flexitarians fuel innovation in vegetarian food," May 2015.  
3. Innova Market Insights, "Top 10 Trends for 2015," December 2014.

## Moofu Meatballs

- The popularity of meatballs spans many cultures, this version appeals to those looking for meat alternatives.
- Launches of meat alternatives experienced an 18.6% CAGR from 2009 to 2014.<sup>1</sup>
- Half of Americans eat at least one nonmeat meal per week, up from 40% in 2007.<sup>2</sup>
- More people, especially those over 65 and under 30 are eating less meat and searching for high-protein items to replace meat.<sup>3</sup>



16g (32% Daily Value) of high quality U.S. dairy protein per serving

- Contains skim milk, WPC80, butter and parmesan cheese.

1. *Innova Market Insights*, "Meat Substitutes," February 2015.

2. Innovation Center for U.S. Dairy, "The Future of Dairy," November, 2014.

3. USA Today, "Meatless meals gain popularity for budget, health reasons." March 2012.



## What is Moofu?

- Moofu is a coagulated dairy protein product that can be used to replace meat (similar to tofu, but from high-quality dairy protein).
- Can be made by acidifying skim milk using vinegar, collecting the resulting curds, and pressing the curds to the desired firmness.
  - The resulting product can be cut, shredded, crumbled etc. for the desired application and texture.
- White in color and has a neutral, mild taste.
- U.S. dairy processors able to make ricotta or cottage cheese are able to make Moofu.

	Moofu Meatball	Soy-based Meatball
Per 80g Serving Size		
Calories	130	130
Fat (g)	4	4.5
Protein (g)	15	14



## Concerns about Sodium Reduction Continue



- 34% of consumers are limiting their salt intake by switching to low-sodium products.<sup>1</sup>
- Sodium consumption is not just a U.S. issue; there are at least 32 countries with sodium reduction initiatives.<sup>2</sup>
- In 2012, 53% of consumers tried to limit salt/sodium intake.<sup>3</sup>
- Whey or milk permeate can help reduce the need for added salt by enhancing salty perception.

1. Cheese and Sodium Snapshot: Fall 2011 IC for U.S. Dairy® Health & Wellness, Custom Sodium Survey, April 2010

2. Webster JL, Dunford EK, Hawkes C, Neal BC. Salt reduction initiatives around the world. J Hypertens. 2011;29(6):1043-1050.

3. IFIC 2012. 2012 food and health survey. International Food Information Council, Washington D.C. [www.ific.org](http://www.ific.org)

## Reduced-sodium Barbeque Sauce

- “No additives or preservatives” was the second-leading claim among table sauces launched in 2013<sup>1</sup>; and permeate usage supports this claim.
- Manufacturers are flying under the radar with stealth reduction, especially for sodium.<sup>2</sup>
- Growing health concerns continue to shift consumers toward superior quality condiments with less salt and sugar.<sup>3</sup>



Whey permeate usage allows for more than 60% sodium reduction to 115g per serving.

1. Innova Market Insights, “Table Sauces,” January 2014

2. Innova Market Insights, “Permeate,” February 2015

3. Transparency Market Research, “Condiment sauces Market Global Industry Analysis,” December 2014.

## What is U.S. Whey or Milk Permeate?

- By-product of whey and milk protein manufacture
- Benefits
  - **Label Declaration: Dairy Product Solids**
    - **Provides a consumer-friendly, simple label**
  - Offers sodium reduction alternative
  - Maintains flavour and texture
  - Contributes to surface browning
- Permeate Contains:
  - **Ash-mineral salts**
    - **Calcium phosphate, magnesium, sodium, potassium, etc.**
  - Non-protein nitrogen compounds
    - Urea, creatine, creatinine, uric acid, orotic acid, ammonia
    - Flavor potentiators
  - Lactose



## Typical Composition of Food Grade U.S. Permeate

Protein	3-8%
Carbohydrate	65-85%
Fat	1.5% max
Moisture	3-5%
Ash	8-20%
Sodium	570mg/100g
Calcium	870mg/100g
Phosphorus	720mg/100g
Magnesium	130mg/100g

# Thank you

*[www.ThinkUSAdairy.com](http://www.ThinkUSAdairy.com)*

*[techsupport@ThinkUSAdairy.com](mailto:techsupport@ThinkUSAdairy.com)*

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